

Message

From: Fisher, Jody L ENV:EX [Jody.Fisher@gov.bc.ca]
Sent: 1/29/2019 11:25:06 PM
To: Beaman, Joe [Beaman.Joe@epa.gov]
CC: Reddekopp, Sheldon ENV:EX [Sheldon.Reddekopp@gov.bc.ca]
Subject: Critical Decision Points
Attachments: 2019 01 29 Decision_Points Updated.docx

Prior to Terri leaving, she was working on a document that was called critical decision points. I'm not sure who was working on it with her, but it looks like this table has some details where decisions will have to be made to inform the model. Please use the information in the table if you find it helpful.

Let's touch base next week.

*Jody Fisher, MSc., RPBio., PAg.
Environmental Impact Assessment Biologist*

From: Beaman, Joe [mailto:Beaman.Joe@epa.gov]
Sent: Tuesday, January 29, 2019 10:52 AM
To: Fisher, Jody L ENV:EX
Subject: RE: REQUEST - Data Analysis Plan & Model Estimates

Hi Jody,

Next week, Wednesday seems like the best day. I am wide open, so let me know a good time for you.

I will send you at least an outline of my thinking so that we can discuss my perspective on the plan, perhaps with more buy-in from the SeTSC at a later date (maybe in 2 weeks?). I had planned to work on it before the New Year and finish it when I came back to work in early Jan, but then we got furloughed.

In terms of cost for the modelling work, I do not have a good idea. If the data are in tables that make the calculations of the model components easy (EFs, TTFs, and BAFs), then hopefully the modelling calculations won't take too long.

There are several components to the work:

1. Deciding on the model runs necessary for WQC/WQO development (e.g., fish species, Lake sites, etc; **SeTSC** based on analysis plan)
 - Bioaccumulation Model Approach
 - Bioaccumulation Factor Approach
2. Putting together the data tables for each component of the calculation for each approach (e.g., BAFs, EFs, and TTFs) – **contractor?**
3. Running the models (**USGS or contractor?**)
4. Analyzing the model runs (**SeTSC**)
5. Uncertainty Analysis (**SeTSC based on analysis plan**)

There is also the writeup and presentation materials which could potentially (at least in part) be done by a contractor (depending on the contractor) with assistance from SeTSC.

My understanding is that we were trying to find money for USGS (Teresa Presser), possibly from Teck, but the transfer of funds is a bit sticky.

I have never run the USGS model personally, but I am familiar with BAFs. We had contractor support when we did model runs for the development of national selenium criteria.

Teresa would be the best person to ask regarding LOE (hours) to do model runs. I believe that the more time consuming piece is getting data tables ready to make the calculations easy.

These tables will likely be necessary as part of the administrative record submitted by MT to R8 EPA as part of the Lake K WQS package. Not sure what documentation is required by BCMoE.

Thanks,

Joe Beaman
202-566-0420

From: Fisher, Jody L ENV:EX <Jody.Fisher@gov.bc.ca>
Sent: Monday, January 28, 2019 6:01 PM
To: Beaman, Joe <Beaman.Joe@epa.gov>
Cc: Reddekopp, Sheldon ENV:EX <Sheldon.Reddekopp@gov.bc.ca>
Subject: REQUEST - Data Analysis Plan & Model Estimates

Hi Joe,

I'm happy to hear that you are allowed to work again. It was a long one! I know that your inbox is probably overflowing, but I'd like to book you early. Would you be available for a call next week to talk about drafting the data analysis plan? What is your availability like next week for a call (approx.45min.)?

Also, I'm hopeful to get an estimate for the modelling work. Do you have an idea of cost?

Thank-you for your feedback on the Se speciation question. Happy to have you back!

Jody Fisher, MSc., RPBio., PAg.
Environmental Impact Assessment Biologist

From: Beaman, Joe [<mailto:Beaman.Joe@epa.gov>]
Sent: Monday, January 28, 2019 6:12 AM
To: DavidD@windwardenv.com; Fisher, Jody L ENV:EX; (david.janz@usask.ca); (joseph_skorupa@fws.gov); Dave Naftz (dlnaftz@usgs.gov); Karen Jenni (kjenni@usgs.gov); Kelly, Myla; Meays, Cindy ENV:EX; Reddekopp, Sheldon ENV:EX; Theresa Presser (tpresser@usgs.gov)
Subject: RE: QUESTIONS - Se Speciation for Existing Particulate Samples

Good morning Team:

It is good to be back to work!

I have not kept up during the furlough, so there may be some catch-up time to get current.

With regard to the questions below, I agree with David's perspective on both of them.

That being said, I think that dedicating at least a few samples to speciation is important to understand the Se inputs to the system, as well as their downstream transformation.

With respect to speciation's relation to the modeling effort, keep in mind that the WQC/WQO that is being considered are based on total dissolved selenium (all inorganic and organic species).

If speciation (and the potential for change over time) is an aspect that may be considered in future modeling efforts, than I think a broader discussion is needed on a sampling plan that will position us with the necessary data in future years.

Thanks,

Joe

From: David DeForest <DavidD@windwardenv.com>

Sent: Tuesday, January 15, 2019 1:27 PM

To: Fisher, Jody L ENV:EX <Jody.Fisher@gov.bc.ca>; (david.janz@usask.ca) <david.janz@usask.ca>; (joseph_skorupa@fws.gov) <joseph_skorupa@fws.gov>; Dave Naftz (dlnaftz@usgs.gov) <dlnaftz@usgs.gov>; Beaman, Joe <Beaman.Joe@epa.gov>; Karen Jenni (kjenni@usgs.gov) <kjenni@usgs.gov>; Kelly, Myla <MKelly2@mt.gov>; Meays, Cindy ENV:EX <Cindy.Meays@gov.bc.ca>; Reddekopp, Sheldon ENV:EX <Sheldon.Reddekopp@gov.bc.ca>; Theresa Presser (tpresser@usgs.gov) <tpresser@usgs.gov>

Subject: RE: QUESTIONS - Se Speciation for Existing Particulate Samples

Hi Jody and Others-

Happy New Year to you too!

I'll be curious to hear the thoughts from others, but it seems to me that a potential benefit of analyzing Se species in suspended particulate samples is to evaluate whether Se speciation is changing over time, which could then influence whether a model based on current data would be applicable to future conditions. It's unclear to me how the speciation data would currently be used in developing the model. I suppose this is part of my attempt to answer question #1. Regarding # 2, I believe we would be interested in all forms of selenium. I am concerned, though, that the small sample masses currently available may result in sufficient uncertainty that may not justify the cost.

Kind regards,
David D.

From: Fisher, Jody L ENV:EX <Jody.Fisher@gov.bc.ca>

Sent: Monday, January 14, 2019 2:18 PM

To: (david.janz@usask.ca) <david.janz@usask.ca>; (joseph_skorupa@fws.gov) <joseph_skorupa@fws.gov>; Dave Naftz (dlnaftz@usgs.gov) <dlnaftz@usgs.gov>; David DeForest <DavidD@windwardenv.com>; Joe Beaman (Beaman.joe@epa.gov) <Beaman.joe@epa.gov>; Karen Jenni (kjenni@usgs.gov) <kjenni@usgs.gov>; Kelly, Myla <MKelly2@mt.gov>; Meays, Cindy ENV:EX <Cindy.Meays@gov.bc.ca>; Reddekopp, Sheldon ENV:EX <Sheldon.Reddekopp@gov.bc.ca>; Theresa Presser (tpresser@usgs.gov) <tpresser@usgs.gov>

Subject: QUESTIONS - Se Speciation for Existing Particulate Samples

Happy New Year SeTSC!

I had a discussion with Ben Wozniak at Brooks Applied Labs on December 21/18. He provided some information and some additional questions prior to analyzing ENVs suspended sediment samples.

Se speciation typically requires 1g of sample for analysis. Anything less than 1g makes the analysis more challenging. ENV samples range from 0.17-0.29g. This is a bit low for analysis and the lab may need to make some compromises. If the sample volume is low, they are able to do a 5 step extraction process, but it may not be the best for what we want. Costs range from \$300-\$650/sample depending on the sample size and the speciation requested. Selenate/selenite analysis costs are closer to \$300/sample. The smaller sample volume costs more to analyze.

BAL had questions to help clarify what analysis is best for these samples:

1. What will the data be used for?
2. What breakdown do we want? (ie. selenite/selenate/selenomethionine/all forms of Se)

Each agency needs to request that the existing particulate samples at the lab need to be saved for future analysis. IMPORTANT – if you have suspended particulate samples at the lab, you need to contact BAL right away as some of the spring samples may be disposed of soon.

SeTSC - Please advise on the two questions above as soon as possible. We will be in touch about our Jan.22/19 monthly call, later this week or early next (we hope that our US federal partners are able to join by then).

Thank-you for your feedback,

Jody Fisher, MSc., RPBio., PAg.
Environmental Impact Assessment Biologist

Monitoring Assessment & Stewardship | Environmental Protection Division
Ministry of Environment and Climate Change Strategy
205 Industrial Rd. G. | Cranbrook, BC | V1C 7G5 | (250) 489-8518